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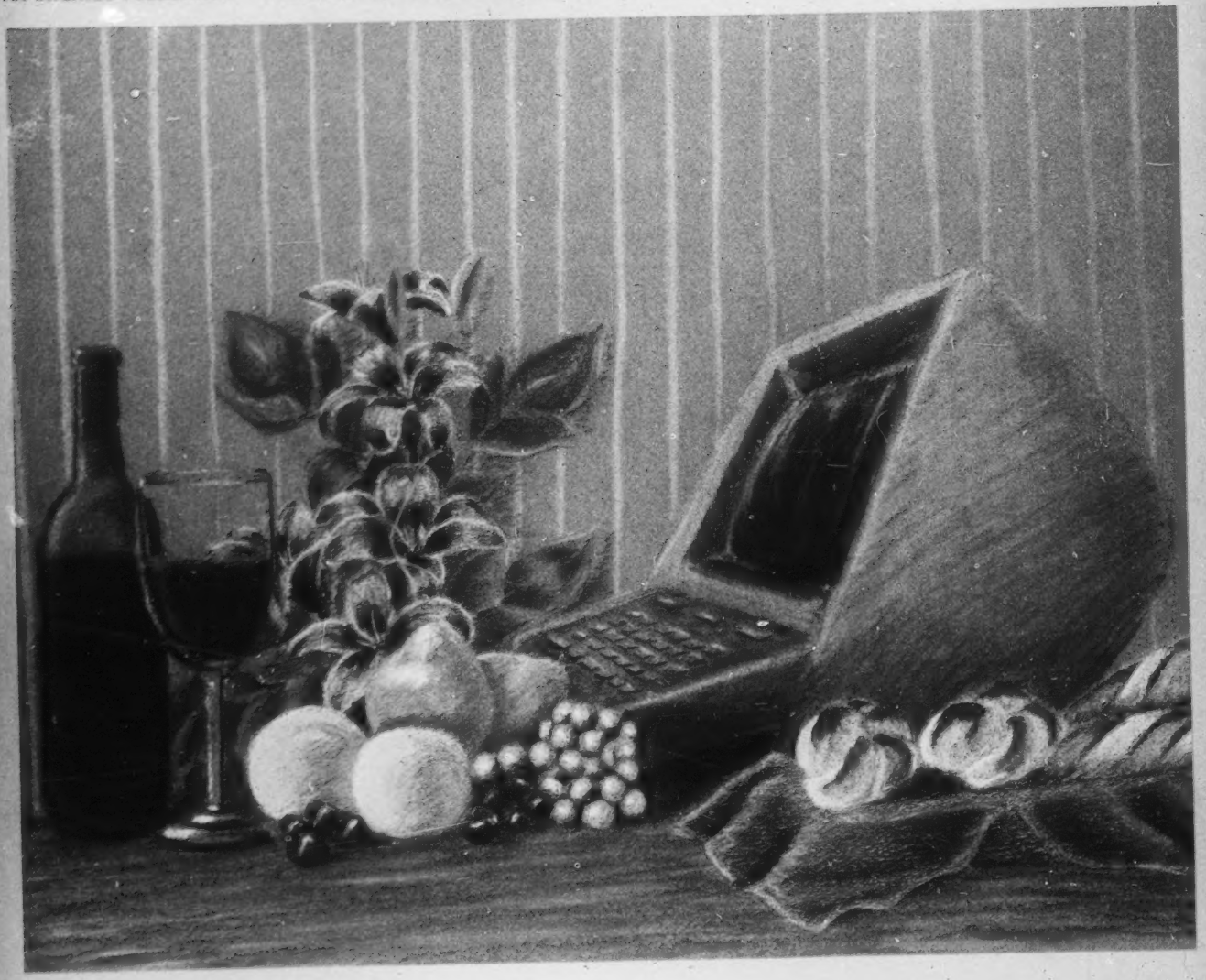

VIVE LE MINITEL

After six years of successful operation, France's Teletel videotex system is still going strong

PATRICK PLEDGES SMALL TELCO PROTECTION

Under Senate pressure, he says price-cap plan will have safeguards

PAC BELL, DEC BEGIN MESSAGING TRIALS

User groups will test X.400 service this fall

MONDAY, AUGUST 8, 1988 Volume 215, No. 6

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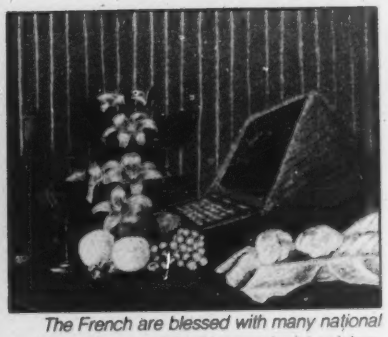

The French are blessed with many national treasures: unmatched impressionist painters, world-renowned cuisine, wine, and now, a distinctly 21st century item, mass market videotex. Cover art by Karen Dunaitis

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Vive le Minitel

Now in its sixth year, France's Teletel videotex system is the world's most mature example of a mass market, on-line information network. Telephony *traveled to Paris in June to see Minitel in action*

ELLIS BOOKER, Features Editor

The French are blessed with many national treasures: unmatched impressionist painters, world-renowned cuisine and, of course, wine.

But now the French are adding another, distinctly 21st century item to this list—mass market videotex. And although it remains to be seen whether other countries will be able to import this seed, the French experience does suggest how mass market videotex could flower in other soils.

A visitor to Paris need not look far for evidence of the videotex revolution. Ride the excellent Paris Metro and you will see advertisements everywhere for one of the most conspicuous, popular and controversial of the Teletel services, the adult-oriented chat lines and bulletin boards known as the *messageries rose*. "Natasha 36 15" reads a purple poster with black lettering affixed to the wall at the entrance to one Metro stop.

Less obvious, however, is the daily impact that the 3.7 million Minitel terminals installed since 1982 throughout France are having on the way French citizens live and work. Through their Minitels, these users can search for phone numbers and addresses (and soon will be able to send electronic mail to one another), order food or theater tickets, do on-line banking or check a train schedule. And these applications overlay many business-to-business services not available to the general public.

Officials of the state-run telephone company, France Telecom, are proud of Minitel's uses, both practical and frivolous. They also insist that the French formula—simple-to-use and inexpensive terminals, a convenient billing arrangement and a basically hands-off attitude toward the type of information carried over the public network—is the reason for Minitel's success, and could serve as a model for other countries.

"First, there is no demand for videotex," says Jean-Paul Maury, program director, Teletel. "It is necessary to show to the user that they will have some advantages. The first problem is to have low cost, and it's necessary to have a system that is easy to use because [users] will not make an effort."

Maury adds that videotex must offer services that are unique, that "are not in competition with paper." For example, the electronic directory service, which is the workhorse of the Teletel network, began with "local information" only. The service became popular, however, when it began offering national coverage and multiple search options. Currently the direc-

tory enables users to search by name, heading (such as "Doctor") and street name, as well as emergency number, postal code, national tariff and France Telecom administrative information.

Making sure that Teletel services are "not in competition" with traditional forms of paper services goes deeper, however. Early on, France Telecom came to an accord with the French publishing industry and made two important concessions. First, advertisements on EDS could only be updated on a weekly or monthly schedule, making them less timely than classified ads in newspapers. Second, media companies were given the exclusive crack at being information vendors. Finally, to encourage use of the EDS, paper directories, although available to Minitel recipients, were no longer free. This carrot-and-stick approach has apparently worked.

Maury says that France Telecom will exceed its earlier goal of 5 million Minitels in 1990 and will have 6 million units installed by 1990. In addition, he confirms that the no-charge program will end next year, at which point all Minitels will be rented to subscribers for a small fee.

The most significant short-term enhancement that will be made to the basic Teletel system will be electronic mailboxes, tied to the electronic directory. According to Maury, this service will begin at the end of this year. "It will be a usage charge," he says. "We will not ask for rent of the box." (Many existing Teletel information service providers already offer E-mail within their own applications.)

The second enhancement, due to begin in earnest next year, is the addition of Lecam (for *lecteur de carte a memoire*) "smart card" readers. Now a peripheral device to the Minitel terminal, and rented to subscribers for about FF50 ($7.94) a month, Maury says the Lecam will be incorporated into the standard Minitel terminal next year. Paying for goods and services is more convenient and secure with a Lecam system, he says. In addition, in some applications the cards can automate network log-on and identification procedures.

One of the more interesting future products Maury shows his visitors is a portable Minitel terminal that can be connected to a car phone or a standard jack. The prototype, which has a liquid crystal display and some local intelligence, can run off a car battery or an ac line and "will be in big demand," he predicts.

Even so, the standard Minitel 1 has been criticized for its lack of local intelligence and memory storage. Indeed, the 1B supplanted the first Minitel terminal, the Minitel 1, which used a non-standard keyboard, supported only the Teletel (CEPT Profile 2) protocol and had an alphamosaic screen display of 25 rows by 40 characters. The Minitel 1B, the basic model since mid-1986, is a "dual-standard" terminal that supports both the Teletel standard and the 80-column ASCII standard.

Maury admits that the first design was a mistake. "It was not compatible with what was existing [internationally], and so it slowed delivery," he says. But like others within France Telecom, Maury is quick to defend the Minitel and its simplicity. "The PC is too complicated, too expensive," he says. In fact, users requiring PC features can buy a Minitel 1200/75-b/s (V.23) reversible modem board for a PC and one of dozens of suitable software packages. France Telecom could not provide figures on the number of users employing PC emulation, however.

Maury also dismisses critics who have said the Minitel's 1200-b/s speed is too slow. "There is a lot to imagine first with text. . . . It's necessary to begin with something, and it is a mistake to start too high," he says. He argues that text-based services will remain popular even in the age of ISDN. "In a book you have a lot of characters and few figures. But books still sell," Maury observes. France Telecom has a stated goal of making ISDN available on a national basis by 1990.

Growth Figures

The "selling of Minitel," to judge from France Telecom's own figures, is undeniable. As of last December, the penetration rate of Minitel in relation to the number of subscribers was 13.6%, with 19.5% of the population over age 15 enjoying access to Minitel. In fact, 1987 was an important year for Teletel from both a technological and marketing standpoint.

During 1987, 1.1 million Minitels were installed in France, a 51% increase in one year. The number of calls to the various Teletel information services increased to 513.8 million in 1987, up from 104 million in 1985. Likewise, the number of hours on the system grew from 11.7 million in 1985 to 52.4 million last year. Leading this growth was EDS, which logged 300 million calls during 1987, or an average of 24.5 million calls per month. Accessed through the network address "11," EDS accounted for 33% of all the calls over the Teletel network in 1987 (Figure 1). By comparison, directory assistance logged less than 200 million calls in the same period.

To handle this increased traffic, France Telecom added over 10,000 access ports to its Teletel network between 1986 and 1987, reaching 43,160 ports as of last December. Last year, Teletel traffic represented 53% of the annual volume billed on France Telecom's Transpac packet network.

And to make the selection of on-line services easier (at last estimate there were 8000 information services on the Teletel network) France Telecom launched last year another on-line directory—the Minitel Services Guide.

Although traffic figures show impressive growth, Minitel use is less spectacular. According to France Telecom figures, the average number of monthly calls per Minitel grew from 13.5 in 1986 to just 15.2 in 1987. And the average duration of these calls actually fell from 6.3 to 6.1 minutes per call.

In explaining the drop in call duration, France Telecom cites the "leveling off" of the messaging services and the fact that shorter calls may indicate users are becoming more familiar with the information services, and so spend less time on-line navigating through the network and its services.

Any discussion of the messaging services in France must touch the subject of pornographic services. One source familiar with the Teletel network said these services accounted for 50% of the Teletel traffic in 1986. Officially, however, France Telecom

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officials will say these services account for 10% to 20% of the traffic and are declining. In fairness, France Telecom cannot know the exact traffic contribution of these or any other kiosk-based services. Nevertheless, in response to public and government concerns, France Telecom implemented rules on chat lines last year. Service providers must monitor "open" lines, either automatically or with operators, and can terminate obscene calls.

In essence, the Teletel network consists of the voice network, videotex access points and Transpac, France's X.25 packet network. The VAPs, which are based on Alcatel E10 digital switches, are hooked to Transpac via 9.6-kb/s and 48-kb/s links. Figure 2 shows the Teletel network and its components.

Rates, Kiosk Billing

France Telecom significantly expanded the billing options for Minitel services in 1987. It added three new telephone access numbers for business users, including an 800-type "Green Number" (36 05 XX XX), paid for by the service provider and free to users. Even more significant, two "kiosk" numbers were added in the middle of the year: Teletel 3P (36 16) and Teletel 4 (36 17).

Inaugurated with Teletel 3 in 1986, kiosk billing is frequently heralded by France Telecom officials as a key element to Minitel's acceptance and growth, and to the number of services now available on the Teletel network.

Kiosk billing works as follows: Once a user is connected to the kiosk service—either by typing the service's mnemonic, three-letter code or its eight-digit address—the VAP transmits metering pulsed to increment the charge meter at the user's local telephone exchange. Each pulse corresponds to one phone unit fee on the user's telephone bill; the pulse rate can be adjusted so that the price of the call covers service use and communication costs.

Significantly, no presubscription is required to access kiosk services. Or, as one observer puts it, "The particularity of the French system is you can have a fantastic amount of services and [users can] stay five minutes, two minutes, one minute. If you had to subscribe to each service you would lose a great part of these calls."

And because the user's monthly phone bill is the conduit for the kiosk charges, an element of financial risk that might impede small information providers is removed.

Bolstered by the success of Minitel at home, France Telecom is now looking for opportunities elsewhere—specifically in the U.S. and Western Europe. Intelmatique S.A., created in July 1987, is the company responsible for these moves. It is 100% owned by three subsidiaries of Cogecom, France Telecom's holding company. The three partners are France Cables et Radio with 56%, Telesystemes with 10% and Transpac with 34%.

The corporate evolution of Intelmatique is indicative of France Telecom's objectives. The original entity was a France Cables et Radio subsidiary that primarily publicized Minitel at international trade shows but "without specific research on the business opportunities," says Intelmatique's President Director General Alain Profit.

Intelmatique's current operational goals are summarized in its official literature this way:

- consultancy services in marketing, software and engineering for the development of videotex abroad;
- participation in shareholdings of significant size in companies operating abroad on behalf of France Telecom; and
- development of international videotex traffic.

With its staff of 25 in Paris and five in New York, Intelmatique also operates and distributes MinitelNET, a service that allows users in other countries to access most services on Teletel over local X.25 networks.

Intelmatique's most important agreement this year was with U S West *(Telephony, May 30, page 14)*. Profit explains the nature of the technology-sharing agreement, the first with a Bell regional holding company, this way, "I think people in your business are looking for figures. . . . We didn't try to

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sell any particular piece of equipment or software to U S West. But this agreement is quite important. It states that U S West has decided to move strongly into videotex and profit from our experience. It states that they are committed to supporting the French protocols and standards for the network and the terminal, though not on an exclusive basis."

Profit goes on to say that the two companies will undertake a study of videotex and its potential in U S West's 14-state territory. If U S West decides to proceed, Profit says, "They are committed to offer us participation in that venture—technical assistance and, if they wish, some monetary investment."

Profit reports that Intelmatique has been in discussion with Nynex, Ameritech, Pacific Telesis and Bell Atlantic. He says Southwestern Bell is not a target at the moment because of its ongoing relationship with U.S. Videotel Inc., a two-year-old startup offering videotex in Texas. The remaining RHC, BellSouth, is "a different situation," Profit says. "Quite a few times they mention Minitel as the wrong solution, so it's difficult to go to them and say they are wrong," he explains. But he adds, diplomatically, that Intelmatique is not rejecting a venture with BellSouth.

In his role as Minitel's goodwill ambassador, Profit also rejects the assertion, made by some critics of the Minitel in the U.S., that the French videotex experience has little relevance for the market here.

"If you refer to the size of any RHC, it's about the size of France Telecom. The number of subscribers [in an RHC] is about 15 million—we have about 23 million in France. So the comparison can be made, really."

He also sees parallels in the regulatory environment. "[In the U.S.] you have a strong separation between the Bell companies that offer the network and the information providers. . . . But the situation is exactly the same in France. France Telecom offers transport, and the information providers are outside France Telecom."

Along with its U.S. ventures, Intelmatique is laying the groundwork for Teletel in Europe. Perhaps the most important of these gains occurred Nov. 12, 1987, when the Deutsche Bundespost authorized the connection of Minitel 1B terminals manufactured by Telic-Alcatel to its PSTN. Formerly, Minitels could only be attached to private data networks. The agreement also allows the attachment of West German terminals to the French PSTN. A similar agreement exists between France and the U.K.

In all, around 30 countries have approved Minitel attachment to their national networks. The amount of international traffic is still modest—around 500 hours per month—but Profit hopes this number will grow to 1000 hours by year's end.

However, as Profit points out, the authorization does not indicate that the Bundespost plans to trash its own Bildschirmtext, or BTX, videotex service. Rather, Profit says, "BTX is really the right standard to professional services but not for the consumer—they need something simpler and cheaper." A gateway service for BTX-to-Teletel was recently unveiled, so that German users can access Teletel services through the gateway, the international telephone network, an X.3 PAD of Datex-P (the German X.25 packet network), or the Interpac Teletel VAP in Frankfurt.

The story for Intelmatique and France Telecom in Canada is far less cheerful. Bell Canada's Alex videotex system, announced late last year, will debut in Montreal in December. Yet the Alex terminal, which is being manufactured by Canada's Northern Telecom, is incompatible with the Minitel, despite what Profit describes as Intelmatique's efforts. "We would have liked to, maybe not merge, but to have a joint operation of Alex and Minitel," Profit says. He adds that Bell Canada was contacted a few times about this possibility, the only condition being that the Minitel could be used in the Canadian system.

"Why didn't France Telecom order 100,000 or 300,000 terminals from Northern? Had we done that, Alex might not have been made incompatible. I think it could have been a solution," he concedes.

Whether because of this international competition

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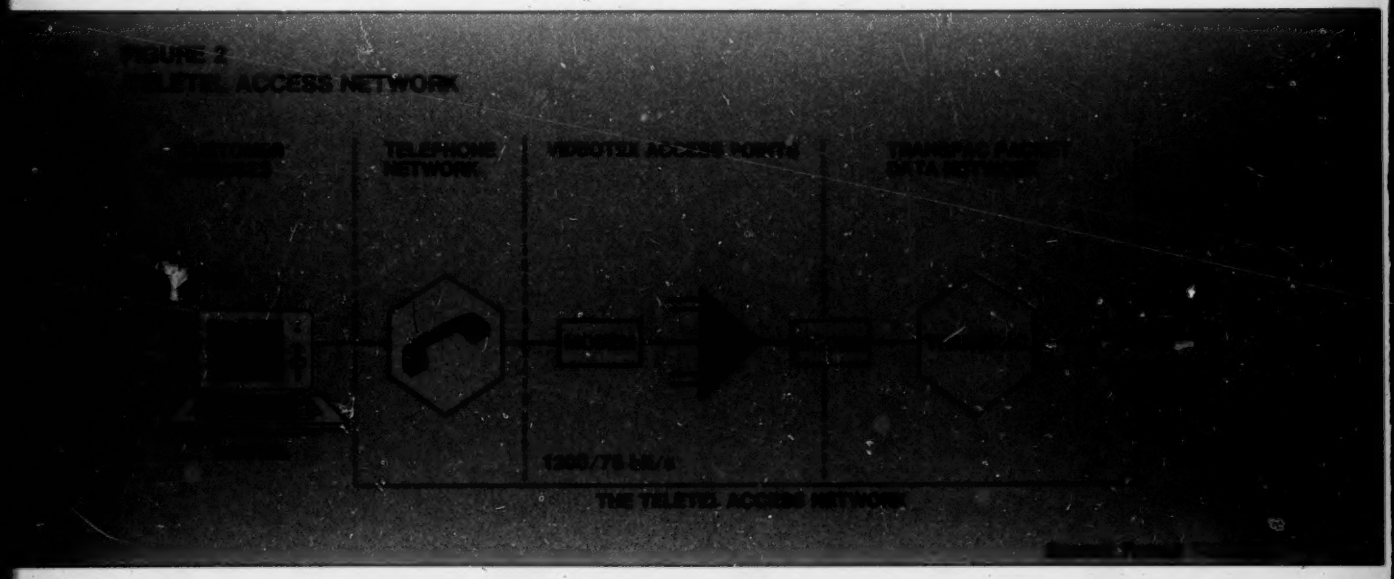

FIGURE 2
TELETEL ACCESS NETWORK

or Graphic II, the Minitel continues to evolve. Currently, there are several types of Minitels accessing the Teletel network, excluding the Minitel 1.

In addition to the Minitel 1B, there is a Minitel with a built-in electronic keyset, a Minitel containing videotex answering machine functions and automatic dialing, and a Minitel with a color screen. Three French manufacturers produce the Minitel terminals. They are Telic-Alcatel; RTIC, a Philips subsidiary; and Matra. These vendors have market shares of approximately 60%, 30% and 10%, respectively.

1992 Deadline

There is a drumbeat in Europe these days that a visitor can hear underneath most conversations about business. It is summed up by a single date—1992. By the end of that year, according to the European Commission's plan, there will be a unified market for its 12 member nations.

The merits of the plan and its chances for meeting its 1992 deadline aside, it is clear that telecommunications and Pan-European videotex services could be an important engine in this new structure. Already there are cross-European applications of the French Teletel system (see story below).

However, the French political environment may work against the 1992 deadline. Some observers note that with the Socialist win during the recent national election the pace of liberalisation may slow.

"In Europe, France will remain the only country, except Luxembourg, with no split [between regulatory and operational functions]. Even for a socialist government that is a major issue," says Michael Feneyol, a member of France Telecom's task force on the evolution of telecommunications in France. Other observers contend that, although the pace of liberalization in France may slow under the socialists, it cannot—and will not—halt.

Still, the Teletel network and the Minitel terminal are no longer a novelty, and to that extent, France is ahead of its EEC partners.

Perhaps even more important, the information providers within France are learning valuable lessons about marketing. Indeed, some say that after three years they are ready to start selling this expertise to others. It is these information vendors, more than the network they use, that will be important in 1992 and beyond. T

Road guides to raisins

There are an estimated 8000 information services available today on France's Teletel videotex network. And, as the examples below indicate, they answer a wide spectrum of business and residential needs.

Lamy S.A. was a 100-year-old publishing house specializing in European business and transportation law before it began its first videotex product in 1985. Sylvie Girard, director, Departement Telematique, explains that Lamy became interested after learning that a competitor was about to launch a videotex product.

Girard says the reaction to Teletro (the on-line version of Lamy's TRO road tariff regulation guide) varied, according to the customer. "Small companies understood it quickly and signed contracts," she says. "Bigger companies were reluctant because it would eliminate in-house staffs [that were needed to collate the information contained in the paper directory], and they couldn't tell how much this would cost."

According to Girard, new Lamy products, especially videotex ones, will contribute FF33 million ($5.2 million) to the company's bottom line this year, almost double the 1987 figure. Lamy's Teleroute service, begun in 1986, includes a directory of tertiary industries for hiring industrial vehicles; a job database for the transportation market; a news wire; a dangerous-goods database; the on-line exchange system for connecting shippers and truckers, information on storage and distribution throughout Europe; and electronic mail. The service may have as many as 50,000 users, says Girard. Teleroute has been available in Belgium since 1986 and the Netherlands and the U.K. since 1987. Lamy hopes to add Spain and West Germany to the list this year.

Epitomizing the attitude of other videotex information providers, Girard says that to stay in front, a videotex service must continually improve. "There's a feeling you always must offer new services, even ahead of market demand," she says.

If Lamy's Teleroute is an example of a vertical market product, then Telemarket's on-line supermarket services demonstrate a service with enormous, mass consumer possibilities.

Telemarket's marketing manager is Marie Marchand. She speaks eloquently about home shopping and how this three-year-old industry has evolved. And no wonder. At the time *Telephony* interviewed her, Marchand had been with Telemarket for just a month, having left France Telecom after seven years of service. While at the PTT, she directed the group that evaluated the commercial potential of new services. Just before entering the private sector, she wrote a book on Teletel, entitled "A French Success Story: The Minitel Saga."

"When you have written books and papers saying that money can be made on [videotex], you just want to see if you can do it," she explains.

Telemarket's two *supermarche* services have 8000 regular customers who order from two catalogs. The catalogs—one with 1900 items, the other 1000—contain everything a household could need, from wine and beef to cleaning supplies and pet food. (Users can also search for items on-line, although this is an expensive option.) Orders are processed within 24 hours and delivered during one of two delivery periods during the day. The premium for this convenience is that goods are about 10% more expensive than Paris prices, or 15% to 20% higher than the prices outside Paris. Payment is made on delivery with credit card or check, and Telemarket is also trying the Lecam "smart card" system for on-line payment. Consumers can also order goods over the telephone.

Like Lamy's Girard, Marchand explains the challenges of being a vendor on videotex. "Our population is very specific, very small and very well-defined," she says, adding that this makes advertising difficult. Among the innovations Telemarket is now trying is to allow customers to enter the *supermarche* via other information services, such as the popular on-line news services offered by Le Monde and Cosmo. In exchange for serving as a gateway, these services keep the traffic as their own, and Marchand says negotiations are under way to give these gateway providers a portion of the revenues.

On the delivery end, Telemarket is trying novel approaches as well, such as leaving the food order in one of two gas stations in Paris for pick-up by the customer. And the videotex interface itself is continually being improved. On-line help is available, and the service can "remember" a customer's last order, which can be modified quickly during the customer's next time on-line.

But the lifespan of an innovation in the videotex world is short-lived, according to Marchand.

"New on the Minitel is short. [A new way of displaying a screen or a method of navigating a service] is new for two or three days or weeks, and then everyone is using it," she says.